ABSTRACT

[0074] A method and system for detecting the presence of subterranean termites, involving use of a thermal imaging camera to scan the structure before installation of an acoustic sensor in order to quickly locate potential areas of subterranean termite infestation, and an acoustic sensor in the form of an accelerometer or the disclosed innovative acoustic sensors having a bandwidth of at least 100 Hz to 15 kHz to detect noises made by the subterranean termites. Information collected by the acoustic sensor may be transmitted to a portable mini-computer (pocket PC) for confirmation and to a central operations center for inclusion in a comprehensive database of termite data and information. A method and system for detecting the presence of dry-wood termites concealed in a structure, involving use of a heat source to warm up the wooden structure of interest and then using a thermal imaging camera to scan the structure for suspicious dry-wood infestation, followed by the use of an acoustic sensor and pattern recognition software to more precisely and accurately locate potential area of dry-wood termite infestation. Additionally, structural damage can be evaluated by the methods discussed herein, including live trees. Additionally, the method can be used to manipulate termite infestation behavior.